



## STS-119/15A Post-Mission Summary

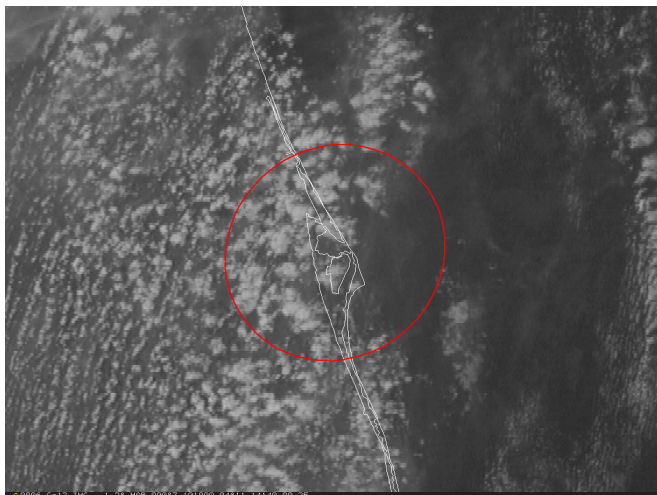
### NWS Spaceflight Meteorology Group



The Shuttle Discovery rocketed into space during a beautiful evening launch from Kennedy Space Center (KSC) Launch Pad 39A on March 15, 2009 at 2343Z. Commander Lee Archambault and the [STS-119](#) crew successfully delivered and installed the S6 Truss on the Space Station. The mission culminated in a landing at Kennedy Space Center on March 28th at 1913Z – the second opportunity available that day. The first landing attempt had been “waved off” due to concerns over the winds and cloud cover.



Launch weather for the mission was relatively benign at both KSC and the Transoceanic Abort Landing Sites (TAL). A sea breeze developed at KSC and moved west of the Banana River about 3-hours prior to launch. The movement of the sea breeze inland produced favorable weather conditions with widely scattered clouds at the Shuttle Landing Facility and winds down the runway. The TAL sites at both Zaragoza and Moron, Spain were acceptable for launch due to a high pressure system. Winds at Istres were out of limits following the passage of a cold front the day prior to launch, but launch proceeded with two acceptable TAL sites.



STS-119 Visible Image at Landing: 28 March 1910 UTC  
Shuttle Landing Facility at center of red circle.  
Red circle is 30 nautical mile flight rule limit.

Landing weather was more challenging with concerns for both wind and ceiling flight rule violations. Winds were intermittently out of limits during preparations for the first landing opportunity and the dynamic weather conditions caused the Flight Director to wave off. A weak sea breeze effect produced a slight wind shift prior to the second opportunity that brought the winds just within the headwind limits. A broken ceiling developed briefly after the de-orbit burn but the clouds became scattered for the orbiter's landing. The 119 Astronaut Crew and Lead Flight Directors recognized SMG for the “*outstanding and accurate meteorological assessment and forecast of the challenging End-of-Mission*

*meteorological conditions*” at the Crew Debrief and Awards ceremony following the mission.

Tim Oram was the STS-119 lead forecaster (54<sup>th</sup> mission overall, 3<sup>rd</sup> as lead) with Mark Wiley as the TAL forecaster and assistant lead (8<sup>th</sup> mission overall). Victor Proton completed his first mission as Lead Techniques Development Unit Meteorologist (3<sup>rd</sup> mission). Doris Hood acted as Victor's mentor *supporting her 100<sup>th</sup> Space Shuttle mission!*